MT 35/US 93 Truck Study

Focus Group Meeting

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Montana Department
of Transportation

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Kalispell, Montana

Montana Department of Transportation
MDT
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Additional Analysis

Based on comments received during and after the public meetings, MDT collected the following additional information:

- **MT 35 speed zone study**
- **Structural analysis of the Swan River bridge at Bigfork**
- **Pavement structural analysis on MT 35**
- **Results of Motor Carrier Services expanded enforcement on MT 35**
- **Truck use of alternate routes (fuel consumption and travel time)**
- **"Off-Tracking Study" at posted speed limits**

Speed Zone Study

- **Travel speeds were sampled directionally at nine locations on MT 35. Each sample was collected with an automated traffic counter over a 24-hour period in July 2008**

- **MDT also monitored speeds at Reference Markers 10, 16, 23, and 29**

- **Trucks included both single unit trucks and tractor-trailer combinations.**

Speed Zone Study

Results:

- Speeds were consistently between 47 mph and 57 mph with approximately 70 percent of the traffic stream traveling within this range

- Between 50 and 75 percent of drivers exceeded the current 50 mile per hour speed limit

- The most common travel speeds observed were just above the 50 mph speed limit with the highest percentage of drivers traveling between 51 mph and 54 mph

- The speed data for both single unit and tractor-trailer combination trucks mirrored the speeds of passenger cars

Swan River Bridge

- **The Swan River Bridge at Bigfork was built in 1954 and is approximately 220 feet long**

- **The roadway width on the bridge is 28 feet which matches the roadway width on the approaches**

- **"Sufficiency Rating"**
  - **48 on a 0-100 scale - due to the bridge width**
  - **A width of 28 feet is considered fairly narrow for the traffic volumes**
  - **Bridge meets minimum standards to remain in place**

- **"Health Index"**
  - **90 on a scale of 0-100**
  - **This rating indicates the bridge is structurally sound**
  - **Bridge will last a fairly long time from a component life standpoint**

Pavement Analysis

Purpose: Estimate MT 35 pavement structural capacity and determine if the pavement is capable of supporting trucks

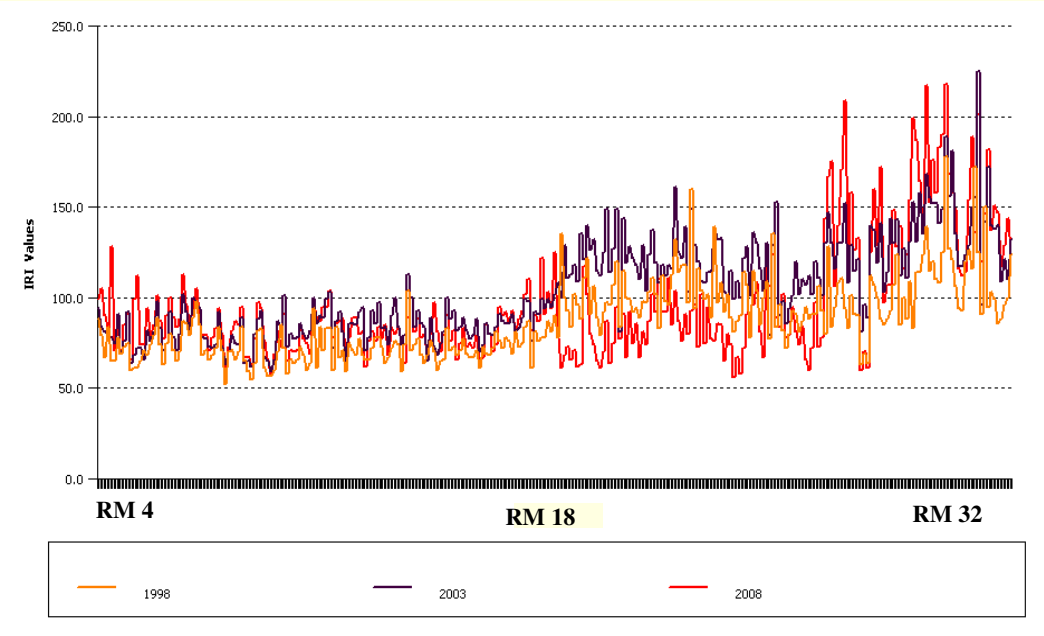
- **Roadway between Polson and Bigfork was constructed 1936-1948**
- **Pavement thickness ranges from 5.4 inches at RM 12 to 14.4 inches at RM 22**
- **Pavement conditions include alligator cracking and aging**
- **Frequent maintenance work is required**
- **Roadway is generally smooth between Reference Markers 4 & 26**
- **Roadway is roughest between RM 26 and 32**

Reference Markers		IRI*
Start	End	
3.6	7.1	84
7.1	10.2	79
10.3	18	86
18	26.3	90
26.3	32.6	147

*International Roughness Index

Pavement Analysis

International Roughness Index (IRI) on MT 35 in 1998, 2003, and 2008

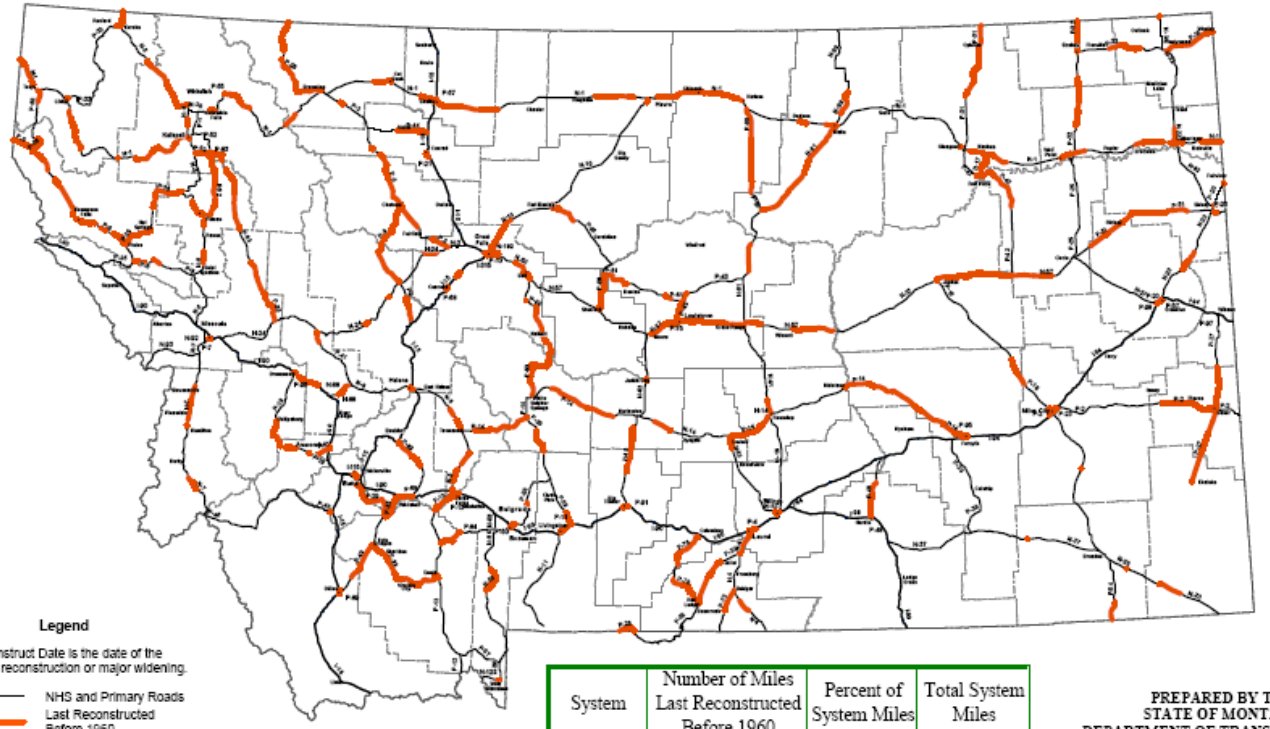


- **Between 1998 and 2008, the pavement from RM 4 to RM 18 deteriorated at a relatively slow rate**
- **The pavement from RM 18 to RM 26 deteriorated rapidly between 1998 and 2003, and improved in 2008 due to an overlay in 2005**
- **The pavement between RM 26 and RM 32 is also deteriorating rapidly and needs treatment**

Conclusion: MT 35 is structurally capable of carrying heavy truck traffic. However, frequent short-term maintenance fixes are necessary pending major rehabilitation or construction

Pavement Analysis

Route Segments Last Reconstructed Before 1960



System	Number of Miles Last Reconstructed Before 1960	Percent of System Miles	Total System Miles
Interstate	24.094	1%	2,382.462
NI-NHS	706.658	26%	2,683.055
Primary	1,338.869	48%	2,814.676

PREPARED BY THE
STATE OF MONTANA
DEPARTMENT OF TRANSPORTATION
ROAD INVENTORY AND MAPPING SECTION
Created May 2008 in ArcGIS 9.2 using ArcMap. ESRI, Inc.
NAD 1983 State Plane Montana FIPS 2500
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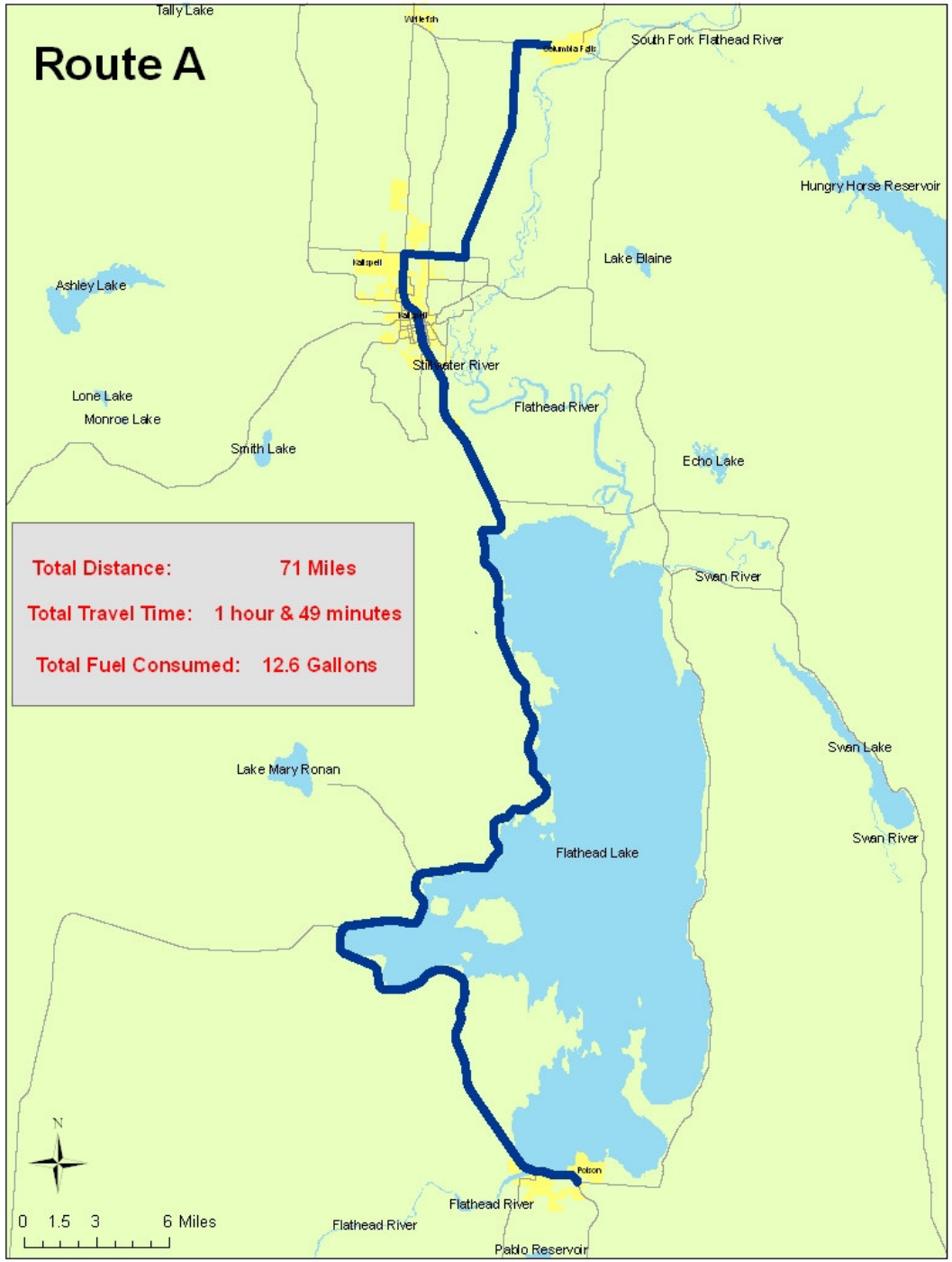
Expanded MCS Enforcement

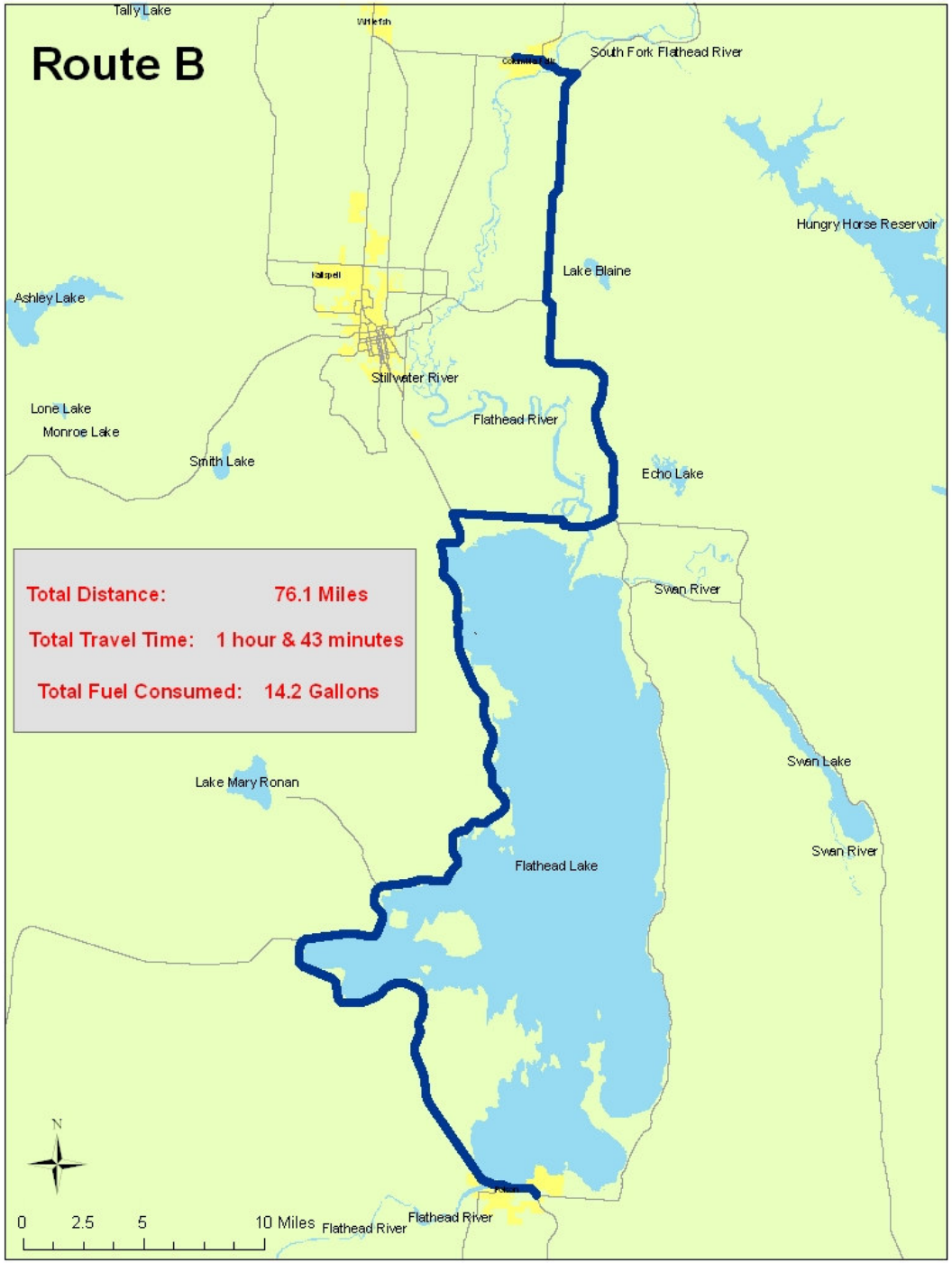
- **Intent was to show increased enforcement presence and to check compliance with MCS laws**
  - **Effort lasted 25 days for a total of 720 hours with MCS officers using random patrol, video, and portable scales**
  - **Officers observed that truck traffic tended to shift from MT 35 to US 93 when they were actively working on MT 35**
  - **A few citations were issued at the beginning of the effort but none after that**
  - **Truck drivers obeyed the speed limit when patrols were active**

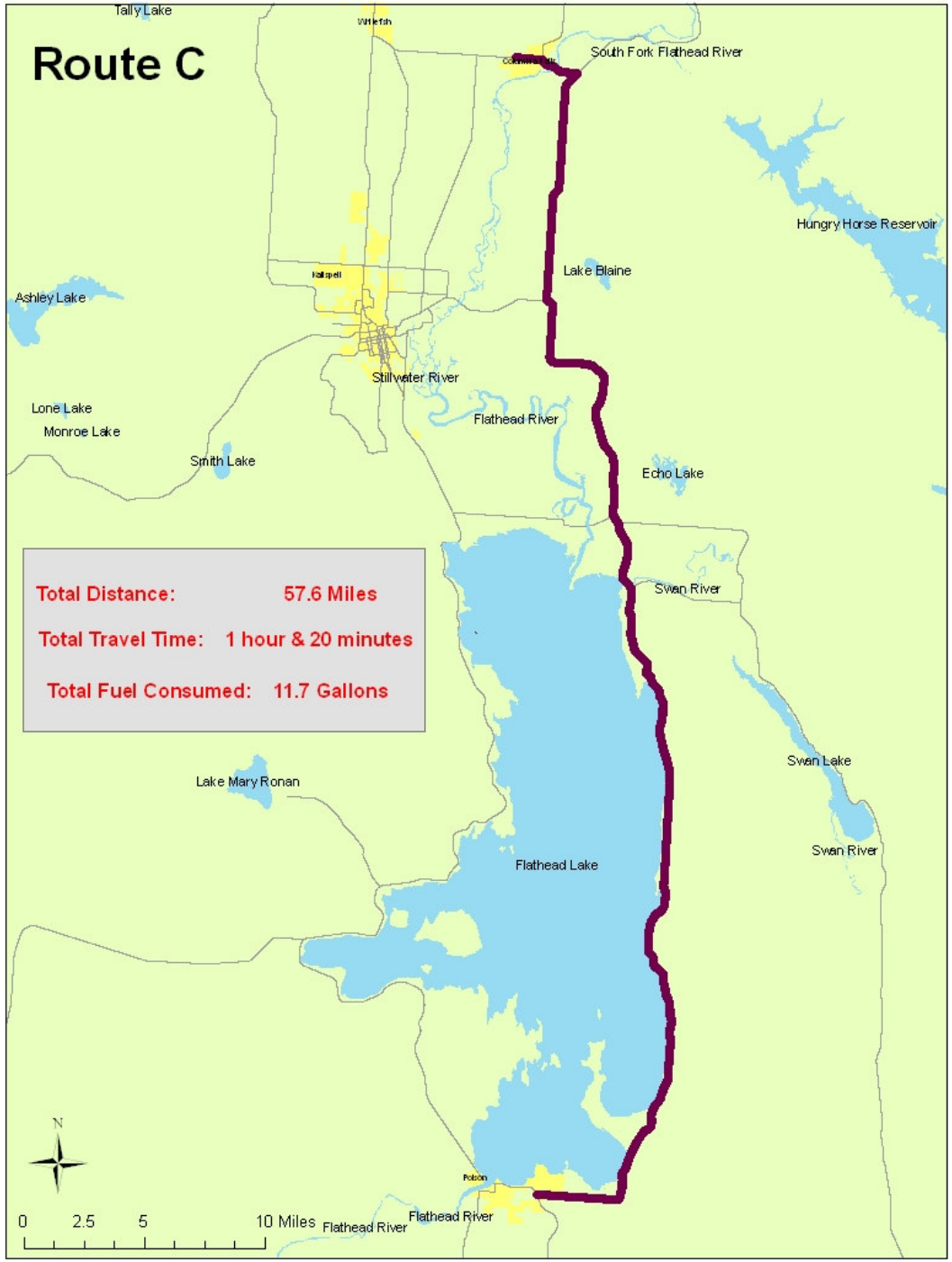
Alternate Truck Routes

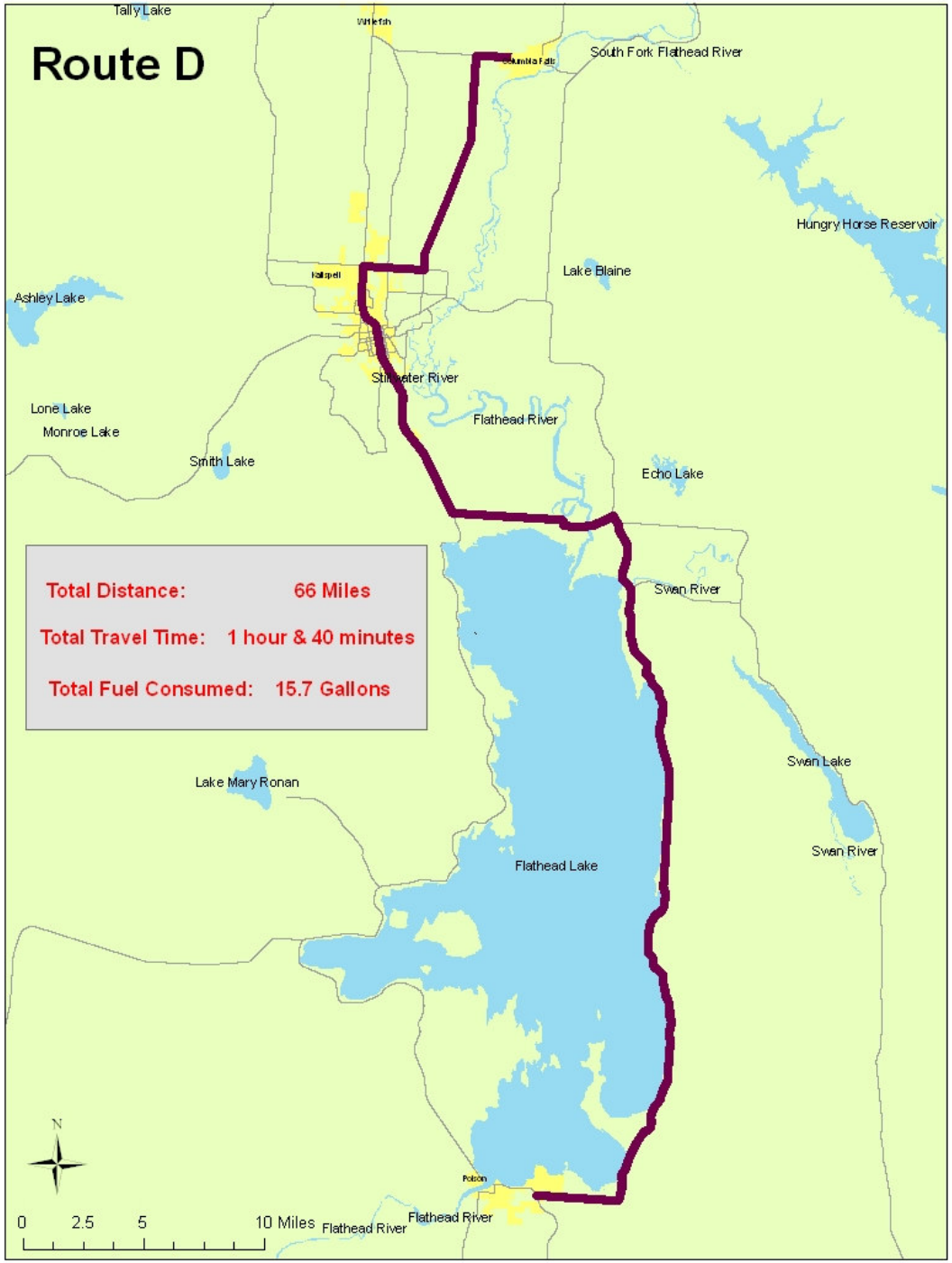
Termini		Miles	Fuel	Time	Route
Start	End				
US 93 West Shore Routes					
A. Polson*	**Col. Falls/Plum Creek**	**71**	**12.6 gal**	**1 hour, 49 min**	**Polson–US 93-Reserve-US 2–Plum Creek**
B. Polson*	**Col. Falls/Plum Creek**	**76**	**14.2 gal**	**1 hour, 43 min**	**Polson-US 93–MT 82-MT 35-S 206-US 2-Plum Creek**
MT 35 East Shore Routes					
C. Polson*	**Col. Falls/Plum Creek**	**58**	**11.7 gal**	**1 hour, 20 min**	**Polson-MT 35-S 206-US 2-Plum Creek**
D. Polson*	**Col. Falls/Plum Creek**	**66**	**15.7 gal****	**1 hour, 40 min**	**Polson-MT 35-MT 82-US 93-Reserve-US 2-Plum Creek**

*Junction US 93 & MT 35 **Driver delayed by stoplights


Route A
Tally Lake
South Fork Flathead River
Hungry Horse Reservoir
Lake Blaine
Ashley Lake
Kalispell
Stillwater River
Lone Lake
Monroe Lake
Flathead River
Smith Lake
Echo Lake
Total Distance: 71 Miles
Total Travel Time: 1 hour & 49 minutes
Total Fuel Consumed: 12.6 Gallons
Swan River
Swan Lake
Lake Mary Ronan
Flathead Lake
Swan River
N
0 1.5 3 6 Miles
Polson
Flathead River
Flathead River
Pablo Reservoir


Route B
Tally Lake
South Fork Flathead River
Hungry Horse Reservoir
Lake Blaine
Ashley Lake
Stillwater River
Lone Lake
Monroe Lake
Flathead River
Smith Lake
Echo Lake
Total Distance: 76.1 Miles
Total Travel Time: 1 hour & 43 minutes
Total Fuel Consumed: 14.2 Gallons
Swan River
Swan Lake
Lake Mary Ronan
Swan River
Flathead Lake
N
0 2.5 5 10 Miles
Flathead River
Flathead River


Route C
Tally Lake
South Fork Flathead River
Hungry Horse Reservoir
Lake Blaine
Ashley Lake
Stillwater River
Lone Lake
Monroe Lake
Flathead River
Smith Lake
Echo Lake
Total Distance: 57.6 Miles
Total Travel Time: 1 hour & 20 minutes
Total Fuel Consumed: 11.7 Gallons
Swan River
Swan Lake
Lake Mary Ronan
Swan River
Flathead Lake
N
0 2.5 5 10 Miles
Flathead River
Flathead River


Route D
Tally Lake
Whitefish
South Fork Flathead River
Hungry Horse Reservoir
Lake Blaine
Kalispell
Ashley Lake
Stillwater River
Lone Lake
Monroe Lake
Flathead River
Smith Lake
Echo Lake
Total Distance: 66 Miles
Total Travel Time: 1 hour & 40 minutes
Total Fuel Consumed: 15.7 Gallons
Swan River
Swan Lake
Lake Mary Ronan
Flathead Lake
Swan River
N
Polson
0 2.5 5 10 Miles
Flathead River
Flathead River

Off-Tracking Study

Intent of study was to observe truck drivers' ability to stay within lane boundaries while driving at the posted speed limits

MT 35

- **MDT conducted the study in cooperation with the industry trucks**
- **Two fuel trucks (truck trailer and tractor-trailer plus trailer); and three trucks (log truck, chip truck, and belly dump construction truck) all consisting of a tractor trailer plus a trailer**
- **Drivers participating in the study were aware they were being followed and videotaped**
- **Drivers negotiated the roadway well, keeping the trucks and trailers in the driving lanes and observing the speed limit.**
- **There were few cases observed when trucks crossed into the centerline area.**

Off-Tracking Study

MT 35 continued

- **MDT also observed drivers traveling on MT 35 who did not know they were being videotaped**
- **Trucks included a food service tractor trailer, a fuel truck with no trailer, a fuel truck with pup, and a truck/lowboy trailer with no load**
- **Again, there were a minimal number of encroachments and only over the centerline**
- **MDT also monitored several other vehicles including a passenger car, a power company truck pulling a trailer, a Suburban, and a pickup truck with horse trailer**
- **Most stayed in their lane with the exception of the pickup truck with horse trailer**

Off-Tracking Study

US 93

- **On October 28, MDT staff monitored eight randomly selected vehicles traveling both north and south between Somers and Lakeside whose drivers had no prior knowledge they were being videotaped**

- **Vehicles included an SUV, a truck, a passenger car, a box store tractor-trailer, a utility truck, a truck with a flatbed trailer, a log truck, and a full-size pickup**

- **There were few encroachments into the centerline area**

Off-Tracking Study

The following video shows MCS officers following one of the five participating trucks (tractor-trailer plus trailer fuel truck from City Service)

Questions?